## CLAIMS

What is Claimed is:

1.      A remote upgrade method comprising:

performing a power up boot process;

monitoring for an indication of available update information;

engaging in an update setup process in which an upgrade indication variable is set

to indicate an upgrade is required when said indication of available update information is

received and said upgrade indication variable continues to indicate an upgrade is

required until an upgrade is successfully completed; and

an update reboot process is executed.


2.      The remote upgrade method of claim 1 further comprising:

booting up an operating system (O/S);and

launching an update application.


3.      The remote upgrade method of claim 2 wherein the update application is a

transmission control protocol/ internet protocol (TCP/IP) socket application residing on a

target device.


4.      The remote upgrade method of claim 3 in which said TCP/IP socket application

waits for a request to engage in an update process, wherein said request is from a

management station that is accessible via the internet.

5.    The remote upgrade method of claim 1 wherein an update request message is received and includes an indication of an updated boot information location.

6.    The remote upgrade method of claim 5 wherein the location indication is an internet protocol (IP) address of a management station and name of an updated boot file comprising updated information stored on said management station.

7.    The remote upgrade method of claim 5 wherein said update setup process includes storing information indicating the location of updated boot information.

8.    The remote upgrade method of claim 5 wherein a received internet protocol (IP) address of a management station server and update information file name are stored as values for an update location variable and an update information file variable in a flash read only memory (ROM).

9.    The remote upgrade method of claim 1 wherein said update reboot process enters an update mode and retrieves updated information from a  central management station.

10.    The remote upgrade method of claim 1 wherein a boot loader routine reads said upgrade indication variable and repeatedly downloads updated information until said upgrade indication variable indicates there is no pending update download required.

11.    The remote upgrade method of claim 1 wherein said upgrade indication variable is changed to indicate no pending update download is required when a download is verified and authenticated.

12.    An update reboot process comprising:

checking a pending update indication;

retrieving update location information;

downloading update information;

determining if a download occurred successfully;

setting a pending update indication to indicate there is no pending update; and

completing a boot sequence.

13.    An update reboot process of Claim 12 wherein a boot loader routine reads an upgrade indication variable.

14.    An update reboot process of Claim 12 wherein management station identifier and update information file name variables are read.

15.    An update reboot process of Claim 12 wherein a connection is made to a indicated management station and information from an update information file is retrieved and information is stored in a flash read only memory.

16.    An update reboot process of Claim 12 wherein received updated boot information is authenticated.

17.    An update reboot process of Claim 12 wherein an authentication mechanism is a public key that prevents loading of "illegal" images and corrupted flash images.

18.    An update reboot process of Claim 12 wherein an update application sets an upgrade indication variable to indicate no update is required and awaits future requests for update downloads.

19.    A boot information upgrade method comprising

executing an update management center process;

performing an update setup process which sets up the target device configuration to prepare for receiving updated boot information, including tracking information identifying a location of updated boot information and setting a pending update indication variable appropriately to indicate boot update information is available and has not been successfully obtained;

executing an update download process, including downloading updated boot information from the update management center and storing it in a read only memory (ROM) , said update boot information download process repeats itself until a download is successfully completed; and

performing a reboot sequence utilizing the updated information and continuing with normal operations.

20.    A boot information upgrade method of Claim 19 wherein said update management center process includes:

creating updated boot information at a centralized location;

initiating contact with target devices wherein the contact with said target devices indicates there is updated information; and

forwarding updated information which is loaded onto said target device.

21.    A boot information upgrade method of Claim 20 further comprising:

initiating contact with said target device, wherein the contact includes information

necessary to access the updated information;

requesting said target device to receive updated information; and

monitoring for requests to download boot information.


22.    A boot information upgrade method of Claim 20 wherein a central management

station server forwards an internet protocol (IP) address of the central management

station and a file name of a file comprising updated boot information.


23.    A boot information upgrade method of Claim 20 wherein updated information is

forwarded via the internet with a public key for authentication.